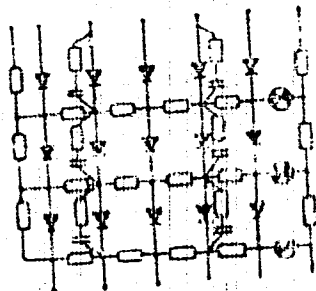


USSR

FIRSOVA, L. D., et al, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 6, 1970, p 55, patent No 262248, filed 15 Apr 64



2/2

1/2 018 UNCLASSIFIED PROCESSING DATE--11DEC70
TITLE--ULTRASTRUCTURAL FEATURES OF ISOLATED LIVER MITOCHONDRIA OF RATS
WITH VARIOUS THIAMINE SUPPLIES -U-
AUTHOR--LUPYAN, L.A.
COUNTRY OF INFO--USSR
SOURCE--VESTSI AKAD. NAVUK BELARUS. SSR. SER. BIYAL. NAVUK 1970. (2), 87-9
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--LIVER, RAT, THIAMINE, MITOCHONDRION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD76/6C5014/F08 STEP NO--UR/0440/70/000/002/0087/0089
CIRC ACCESSION NO--AP0140539
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--11DEC70

2/2 018

CIRC ACCESSION NO--AP0140539

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. MALE ALBINO RATS (1, 12, AND 24 MONTHS OLD) WERE KILLED 24 HR AFTER THE LAST INJECTION OF THIAMINE (I) (3.0 MG PER KG, I.P., FOR 29 DAYS, OR A SINGLE DOSE OF 400 MG PER KG) OR OXYTHIAMINE (II) (DOSAGE NOT SPECIFIED). MOST MARKED CHANGES IN THE ULTRASTRUCTURE OF LIVER MITOCHONDRIA WERE SEEN IN ANIMALS 24 MONTHS OLD. THEY WERE MORE SIGNIFICANT AFTER II THAN I.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--19,NORSTERIODS. PREPARATION OF 5 ALPHA,HALO,6 BETA,19,
OXIDOANDROSTAN,3 BETA,OL,17,ONE ACETATES -U-
AUTHOR-(04)-SAMSONOVA, N.V., MORDZOVA, L.S., LURI, F.A., MAKSIMOV, V.I.
COUNTRY OF INFO--USSR
SOURCE--KHIM.-FARM. ZH. 1970, 4(2), 5-10
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--CHEMICAL SYNTHESIS, ACETATE, CATALYST
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0490 STEP NO--UR/0450/70/004/002/0005/0010
CIRC ACCESSION NO--AP0121164
UNCLASSIFIED

2/2 008

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121164

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. I WERE CONVERTED INTO II. THUS, 1 G I, 1.6 G PB(OAC) SUB4, AND 0.23-0.26 G IODINE WAS REFLUXED IN 30 ML C SUB6 H SUB6 WITH IRRADN. (100-500 W LAMP) 45-60 MIN TO GIVE A PRODUCT 188-190DEGREES IN IS LARGER THAN 80PERCENT YIELD. BEST YIELDS (90PERCENT) WERE OBTAINED WHEN CCL SUB4 WAS USED INSTEAD OF C SUB6 H SUB6. THE REACTION COULD BE DONE WITHOUT ANY IRRADIATION IN CCL SUB4 (RATIO I-CCL SUB4 EQUALS 1:100) THE YIELDS BEING 70PERCENT. WHEN ALPHA,ALPHA PRIME, AZOBISISOBUTYRONITRILE WAS USED AS A CATALYST, YIELDS OF II WERE 70PERCENT. FACILITY: VSES. NAUCH.-ISSLED. KHIM.-FARM. INST. IM. ORDZHONIKIDZE, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 632.95

KAMENNOV, N. A., ~~LURIK, B. B.~~, LIXHACHEVA, V. F., Central Scientific Research
Institute of Disinfection

"A Method of Making Piperonylic Acid"

USSR Author's Certificate No 348556, filed 4 Jan 70, published 8 Sep 72
(from RZh-Khimiya, No 10, May 73, Abstract No 10N564F by T. A. Belyayeva)

Translation: In order to increase the yield of the goal product and simplify the technology of the process of synthesis, sodium hypochlorite is used as the oxidizer for making piperonylic acid by oxidizing piperonal. Example: A mixture of 0.2 mole of sodium hypochlorite and 40 ml of water is brought to a boil, 199 ml of 10-11% solution of NaOCl is added by drops over a 1.5-2 hour period, the reaction is continued until drops of the reaction mass fail to produce any color when applied to indicator paper impregnated with a 20% solution of potassium iodide, the mixture is cooled to a temperature of 20°C or less, filtered, acidified with concentrated hydrochloric acid, and piperonylic acid is separated by a Nutsch filter, washed with water, and dried at 110-120°C with a yield of 80-85%. The melting point of the acid is 225-7°C.

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USSR

UDC 632.95

GVOZDEVA, I. V., ~~LIPIK, B. B.~~ STARKOV, A. V., KAMENNOV, N. A., POGODINA, L. N., and SUKHOVA, M. N.

"Search for Synergists of Pyrethrins in the Methylene Dioxy Phenyl Series"

Tr. VNII dezinfeitsii i steriliz. (Works of the All-Union Scientific Research Institute of Disinfection and Sterilization), 1971, vyp. 21, t. 2, pp 101-106 (from RZh-Khimiya, No 18, Sep 72, Abstract No 18N431)

Translation: For purposes of studying synergistic activity, a series of piperonylic acid esters and amides, and piperonal acetals, were synthesized. The synergistic activity of the synthesized compounds was tested in a mixture with pyrethrins in a 10:1 ratio by the topical method. In tests on houseflies, the greatest synergistic activity was shown by butyl, nonyl and cyclohexyl esters and N,N-dipropyl amide. N,N-disubstituted amides are more active than N-substituted amides. Among the amides synthesized on the basis of heterocyclic amines, morpholide showed the greatest activity. The most toxic for red cockroaches were mixtures of pyrethrins with N-isopropyl amide and piperidide. Among the acetals, the most active compounds for houseflies were ethyl carbitolic and butyl carbitolic acetals of piperonal, and butyl and heptyl acetals. The acetals are weak synergists for red cockroaches. An investigation was made of the synergistic activity of the synthesized compounds on strains of houseflies highly resistant to DDT. T. A. Belyayeva.

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USSR

UDC 615.285.7.015.21

LURIK, B. B., KAMENNOV, N. A., VOLKOV, YU. P., Central Scientific Research Institute of Desinfection, Ministry of Public Health, Moscow

"Study on Insecticide Synergists. Synthesis of Piperidides and Vinylogs of Piperonylic Acid"

Moscow, Khimiko-farmatsevticheskiy zhurnal, Vol 5, No 8, Aug 71, pp 15-17

Abstract: As part of the search for pyrethrin synergists, piperidide of piperonylic acid (III) and two of its vinylogs were synthesized. Compound III was prepared by the oxidation of piperonal (I) with sodium hypochlorite to piperonylic acid (II), and its conversion to the acid chloride, and reaction with piperidine. The Reformatsky reaction between I and ethyl bromoacetate yields B-(3,4-methylenedioxyphenyl)-B-hydroxypropionic acid ethyl ester (IV) which is dehydrated to B-(3,4-methylenedioxyphenyl)-acrylic acid ethyl ester (VI) and saponified to B-(3,4-methylenedioxyphenyl)-acrylic acid (V). Acid V may also be obtained by 1/2

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USSR

LURIK, B. B., et al, Khimiko-farmatsevticheskiy zhurnal, Vol 5, No 8, Aug 71, pp 15-17

condensation of I with malonic acid with simultaneous decarboxylation. Acid V is converted to the acid chloride, and then to B-(3,4-methylenedioxyphenyl)-acrylic acid piperidide (VII). The Wittig reaction between B-(3,4-methylenedioxyphenyl)-acrolein and triphenylphosphonoacetylpipezidine is used to synthesize piperine (X). Piperidides III, VII and X synergize pyrethrins toward *Musca domestica* L.

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USSR

UDC: 621.396.621.59(088.8)

LURIK, V. L.

"A Device for Reception of Relative Phase Telegraphy Signals"

USSR Author's Certificate No 277882, filed 29 Mar 69, published 5 Nov 70
(from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6D28 P)

Translation: A device is proposed for reception of phase telegraphy signals. The device operates by the method of phase comparison. The unit contains a line for delay by the length of a packet, which is connected to one input of the frequency converter, and also a phase detector. The input signal is sent together with the difference frequency from the output of the frequency converter (as a reference signal) to the inputs of the phase detector. In order to provide compensation for phase shift in a wide range of input signal frequency deviation, the input signal is sent to the other input of the frequency detector through a circuit made up of a frequency doubler connected in series with a line for delay by half the length of a packet.

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1/2 019 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--THE STRUCTURE OF PSYCHOLOGICAL PROCESSES IN RELATION TO CEREBRAL
ORGANIZATION -U-
AUTHOR-(03)-LURIA, A.R., SIMERNITSKAYA, E.G., TUBYLEVICH, B.
COUNTRY OF INFO--USSR
SOURCE--NEUROPSYCHOLOGIA 8(1): 13-19, 1970
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, BEHAVIORAL AND SOCIAL
SCIENCES
TOPIC TAGS--CEREBRUM, EXPERIMENTAL PSYCHOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY FICHE NO----FD70/605016/B05 STEP NO--UK/0000/70/003/001/0013/0019

CIRC ACCESSION NO--AP0140653

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--04DEC73

CIRC ACCESSION NO--AP0140653

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EVERY ATTEMPT TO ANALYZE THE CEREBRAL ORGANIZATION OF A PSYCHOLOGICAL PROCESS HAS TO TAKE IN ACCOUNT NOT ONLY ITS STABLE STRUCTURE BUT THE CHANGE OF THIS STRUCTURE DURING THE ONTOGENETIC AND FUNCTIONAL DEVELOPMENT. THIS PRESUMPTION IS ILLUSTRATED BY AN ANALYSIS OF THE DISTURBANCES OF WRITING IN 2 CASES OF LEFT PARIETO OCCIPITAL LESIONS WHERE COPYING WAS SLOW WRITING BASED ON OPTICO SPATIAL ANALYSIS OF LETTERS WAS IMPOSSIBLE BUT QUICK WRITING BASED ON AUTOMATIZED WRITING SKILL REMAINED INTACT. FACILITY: MOSCOW UNIV., DEP. NEUROPSYCHOL., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 616.8-009.836-07

LURIYA, A. R., Faculty of Psychology, Moscow University

"Measurement of Vigilance Levels"

Moscow, Zhurnal Nevropatologii i Psikhatrii imeni S.S. Korsakova, Vol 72,
Vyp 11, 1972, pp 1604-1609

Abstract: Disturbance of cortical vigilance states which occur in lesions of the brain stem and medial cortex is examined. Understanding of language is shown to be dependent upon the level of vigilance. Experiments to discover the mechanism of conditioned responses with associated words indicated that with alert persons, similar sounding words elicited no reaction, but words of similar meaning aroused conditioned vascular responses. Conditioned responses occurred in retarded children with words similar in sound as well as those similar in meaning. Imbeciles reacted only to similar sounding words and not at all to semantically related words. The retarded children reacted more to similar meanings when alert; when tired their reactions to words of similar sound increased. The experiments exposed the subjects to pain associated with certain words and checked individual reaction to groups of unrelated words and groups of words related by sound or meaning. It can be concluded that decrease of tone of the cortex with fatigue or pathological conditions disturbs nerve connections associated with speech. Further research in pharmacological disturbance of cortical activity is indicated.

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1/2 026 UNCLASSIFIED PROCESSING DATE--30OCT7
TITLE--ON THE TWO WAYS OF ENSURING THE CONFIDENCE OF PSYCHOLOGICAL
INVESTIGATIONS -U-
AUTHOR--(02)--LURIYA, A.R., ARTEMIEVA, YE.IU.
COUNTRY OF INFO--USSR 2
SOURCE--VOPROSY PSIKHOLOGII, 1970, NR 3, PP 105-112
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BRAIN, LESION, SYNDROME, PSYCHOPHYSIOLOGY, DIAGNOSTIC MEDICINE

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3001/1387 STEP NO--UR/0402/70/000/003/0105/0112
CIRC ACCESSION NO--AP0126926
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--30OCT71

CIRC ACCESSION NO--AP0126926

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. FOR MANY FIELDS OF RESEARCH THE ACHIEVING OF THE LEVEL OF STATISTICAL CONFIDENCE IS THE CLASSICAL WAY OF OBTAINING CONFIDENT VALUES. HOWEVER, FOR A NUMBER OF FIELDS OF SCIENCE, IN PARTICULAR FOR NEUROPSYCHOLOGY, WHERE THE RESEARCHER HAS TO DO WITH A RELATIVELY SMALL NUMBER OF CASES, SUCH A WAY IS IMPOSSIBLE. THIS DOES NOT, HOWEVER, MEAN THAT IT IS ENTIRELY IMPOSSIBLE TO OBTAIN HERE CONFIDENT VALUES. THE PRESENT PAPER SUBSTANTIATES A POSSIBILITY OF ACHIEVING HIGH CONFIDENCE IN NEUROPSYCHOLOGICAL INVESTIGATIONS BY THE METHOD OF SYNDROME ANALYSIS OF BRAIN LESIONS. THE FULL VALUE OF THIS METHOD IS ENSURED BY THE QUALITATIVE ANALYSIS OF THOSE SYMPTOMES WHICH SHOW MAXIMUM CORRELATION AND ARE NECESSARILY ASSOCIATED WITH ONE ANOTHER. IN THE SECOND PART OF THE PAPER AN ATTEMPT IS MADE TO MAKE FORMAL GROUNDS MORE PRECISE FOR BRINGING THE METHOD OF SYNDROME ANALYSIS NEARER TO THE FACTOR ANALYSIS. FACILITY: FAKUL'TET PSIKHOLOGII MGU, MOSKVA.

USSR

UDC 550.343.62

INUSMANASHVILI, O. V.

"On the Regular Changes of Date and Moment of Large Earthquakes in Transcaucasia"

Tbilisi, Soobshcheniya Akademii Nauk gruzinskoy SSR, Vol 66, No 3, 72, pp 581-583

Abstract: The dates (months and days) and moments of occurrence of the largest earthquakes in Transcaucasia are found to vary regularly with respect to time. These changes occur synchronously with the secular variation of solar activity. A simple empirical formula is derived which relates the date of an earthquake to the moment of its occurrence. An attempt is made to predict the dates and moments of future large earthquakes in the current decade.

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USSR

UDC 599.325.2:59.084.2

NAUMOV, R. I., and LUR'YE, A. A., Institute of Medical Parasitology and Tropical Medicine, Ministry of Health USSR

"Tagging the Mountain Pika With Radioactive Cobalt"

Leningrad, Zoologicheskii Zhurnal, No 11, 1971, pp 1,728-1,731

Abstract: A cobalt 60 source (with an activity of 57 meq of Ra) was implanted in the scapular region of a young female mountain pika (*Ochotona alpina* Pall.) in western Sayan (1450 m above sea level). The animal, which was tracked with two field radiometers could be detected several dozen meters away while above ground and for several meters when it moved among stones. Direct tracking for 21 hours and 17 minutes over a period of 4 days revealed that the animal spent about 34% of the time in feeding, 26% in moving about, and 40% in resting. One old and two young pikas were observed in the same areas. Although there were no signs of hostility, the territorial principle seemed well established.

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USSR

UDC 595.421

LUR'YE, A. A., NAUMOV, R. L., and ARUMOVA, YE. A., Institute of Medical Parasitology and Tropical Medicine imeni Ye. I. Martsinovskiy, USSR Ministry of Health, Moscow

"Radioactive Tracing of Ixodes persulcatus Ticks"

Leningrad, Parazitologiya, Vol 5, No 3, May/Jun 71, pp 281-188

Abstract: Two radiotracer methods were used for the longterm study of ticks (for periods up to five years), since the lifespan of the encephalitis-carrying tick is considered to be 3-5 years. The first method was difficult since it did not produce a sufficiently high radioactivity in the labeled larvae. The method involves subcuticular inoculation of 12 females with a 25 microcurie dose of labeled glucose saline solution. Larvae from these females numbered 1,500-2,300 within 16-20 days with a radioactivity of 0.2-2.2 pulses/sec and 0.8-7.2 pulses.sec per crushed larva. After one month, larvae became ticks. The maximum activity of larvae and ticks was measured and found to vary -- depending on the number of days between treatment and egg-laying. Larval activity ranged from 4 to 20 impulses/second, rarely from 30 to 60 impulses/second. The other radiotracer method used allows one to obtain labeled larvae and ticks by letting them feed on laboratory animals previously treated with

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USSR

LUR'YE, A? A., et al., Parazitologiya, Vol 5, No 3, May/Jun 71, pp 281-288

radioactive substances. White mice were used as radioactive blood donors, since they have a relatively high resistance to radioactivity in comparison with other animals. Labeled glycine was intraperitoneally administered to white mice. Ten mice were used to feed 4,000 ticks and close to 300 nymphs. Most of the radioactive ticks and nymphs were used in field experiments; 150 ticks and 30 nymphs were kept in the laboratory. It was found that the activity of live engorged larvae was 0.5 to 1.1 pulses/sec and that of crushed ones was 4 to 10 pulses/sec. The activity of nymphs was considerably higher. The second radiotracer method is recommended because a label of sufficiently high radioactivity could be obtained and maintained for a longer time period. The development phases of ticks can thus be easily followed by the second method.

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USSR

UDC 535.853.4:535.42

LUR'YE, A. I., SHKURSKIY, B. I.

"Distortions of the Apparatus Functions of Diffraction Gratings, Brought About by Random Errors of Preparation"

Leningrad, Optiko-Mekhanicheskaya Promyshlennost', No 12, December 1971.
pp 5-7

Abstract: Expressions are obtained for determining the apparatus functions of defraction gratings, with account taken of random shifts of lines or of their boundaries. For errors both in the position of the lines and in the position of the boundaries of the lines, with the same distribution laws, the distortions of the apparatus-function envelope are practically the same. Thus, the obtained expressions permit calculation of the distortions of the apparatus functions of defraction gratings that are prepared with random errors which correspond to a known distribution law. 1 table, 2 references.

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1/3 018 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--THALLIUM ACTIVATED POTASSIUM CHLORIDE CATHODOLUMINESCENCE -U-

AUTHOR-(03)-LURYE, A.M., ALUKERS, E., CHERNOV, S.A.

COUNTRY OF INFO--USSR

SOURCE--LATV. PSR ZINAT. AKAD. VESTIS, FIZ. TEH. ZINAT. SER. 1970, (1),
84-7

DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--POTASSIUM CHLORIDE, THALLIUM, CATHODOLUMINESCENCE,
LUMINESCENCE SPECTRUM, QUANTUM YIELD, TEMPERATURE DEPENDENCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1531

STEP NO--UR/0371/70/000/001/0084/0087

CIRC ACCESSION NO--AP0118518

UNCLASSIFIED

2/3 018

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118518

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE INVESTIGATION WAS DONE BY A TECHNIQUE SIMILAR TO THAT USED EARLIER FOR CSI-TL (CA 69: 717526). THE AIM WAS TO GENERALIZE THE EXISTING KNOWLEDGE OF THE PROBLEM CONCERNED AND TO DEFINE ITS APPLICABILITY TO OTHER PHOSPHORS OF THE ALKALI METAL HALIDE TYPE. THE KCL-TL SAMPLE CRYSTAL USED CONTAINED THE ACTIVATOR IN AN AMT. OF 0.1 MOLE PERCENT (AS DETD. POLAROGRAPHICALLY). THE CATHODOLUMINESCENCE SPECTRA (INVESTIGATED AT 100-400DEGREESK) SHOWED 2 NONELEMENTARY BANDS: (1) AN UV BAND WITH A MAX. AT 310 NM CONSISTING OF A BAND AT 310 NM (ASCRIBED TO THE PRIME3 P SUB1 PRIME1 S SUB0 TRANSITION IN ACTIVATOR IONS) AND A BAND AT 365 NM (DUE EVIDENTLY ALSO TO TL) AND (2) A VISIBLE REGION BAND HAVING ITS MAX. AT 500 NM CONSISTING AT LEAST OF A BAND AT 410 NM (DUE TO RECOMBINATION OF HOLES ON THE TL PRIME0 CENTERS) AND A BAND AT 470 NM (INVOLVING PARTICIPATION OF COMPLEX TL CENTERS). THE 310 NM LUMINESCENCE YIELD (ETA SUB310) EXCITATION INTENSITY (E) DEPENDENCE (STUDIED AT 100-550DEGREESK) CORRESPONDED TO THAT OBSD. FOR CSI-TL: AT DEFINITE TEMP. CONDITIONS, ETA SUB310 ROSE WITH INCKEASING E AT COMPARATIVELY LOW E VALUES AND DROPPED IN 2 STAGES AT HIGHER E VALUES (THE ETA SUB310 RISE DISAPPEARED AT TEMPS. BELOW THE EXTERNAL QUENCHING REGION, THE 1ST STAGE OF ETA SUB310 DROP WAS ABSENT AT TEMPS. AT WHICH THE TL PRIME0 CENTERS ARE STABLE, AND AT 100DEGREESK ETA SUB310 WAS CONST. FOR ALL THE E VALUES STUDIED. THE 410 NM GLOW YIELD (ETA SUB310) E DEPENDENCE TAKEN AT 450DEGREESK CONFRONTED WITH THE ETA SUB310 E DEPENDENCE SHOWED THAT ETA SUB410 DROPPED IN AN E RANGE EQUAL APPROX. TO THAT IN WHICH ETA310 WAS RISING.

UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118518

ABSTRACT/EXTRACT--AT 550DEGREESK, THE 2ND STAGE OF ETA SUB310 DROP WAS ACCOMPANIED BY A DROP OF ETA SUB410. AT 100DEGREESK, ETA SUB410 DID NOT DEPEND ON E (SIMILARLY AS WAS THE CASE WITH ETA SUB310). THE RESULTS ARE DISCUSSED IN TERMS OF CONSIDERATIONS INVOLVING COMPETITION OF VARIOUS TRAPPING CENTERS. FACILITY: INST. FIZ., RIGA, USSR.

UNCLASSIFIED

1/2 033 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--PURIFICATION OF NATURAL GAS USING THE VORTEX EFFECT -U-
AUTHOR--(05)--LEYTES, I.L., SEMENOV, V.P., POLOVINKIN, V.A., LURYE, B.I.,
TAGINTSEV, B.G.
COUNTRY OF INFO--USSR
SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(5), 345-50
DATE PUBLISHED-----70
SUBJECT AREAS--PROPULSION AND FUELS
TOPIC TAGS--NATURAL GAS, CHEMICAL SEPARATION, VORTEX
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3008/1734 STEP NO--UR/0064/70/046/005/0345/0350
CIRC ACCESSION NO--AP0138707

UNCLASSIFIED

2/2 033

UNCLASSIFIED

PROCESSING DATE--04DEC79

CIRC ACCESSION NO--AP0138707

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. EFFECTS OF LENGTH-HEIGHT RATIOS IN A JET VORTEX INTAKE OF 200 MM PRIME2 CROSS SECTION AND INPUT-OUTPUT PRESSURE RATIOS BETA EQUALS P SUB2-P SUB4 ON THE COOLING EFFECT AND THE DEGREE OF REMOVAL OF C SUB6 POSITIVE HYDROCARBONS FROM NATURAL GAS WERE STUDIED. COOLING OF THE STARTING GAS BY THE COLD STREAM ISSUING FROM THE VORTEX WAS MAX. AT MU VALUES (0.7-0.9) WHICH DECREASED AS BETA INCREASED. AT MU EQUALS 0.75 AND BETA EQUALS E.R. THE HIGHEST DELTA T SUB1-4 (74DEGREES) WAS OBSD. COOLING BY BOTH THE COLD STREAM AND VORTEX WERE LOWER, THE HIGHER THE CONTENT OF IMPURITIES TO BE CONDENSED. C SUB6-8 HYDROCARBON CONTENT IN GAS ISSUING AT 4-9 ATM AND INITIALLY CONTG. 15 G-M PRIME3 C SUB6-8 HYDROCARBONS DROPPED FROM TO 12.7, 8.7, 4.1, 3.9, 2.9, AND 0.8 AS THE TEMP. OF THE COLD STREAM 0DEGREES TO MINUS 9DEGREES, MINUS 10DEGREES TO MINUS 19DEGREES, MINUS 20DEGREES TO MINUS 29DEGREES, MINUS 30DEGREES TO MINUS 39DEGREES, MINUS 40DEGREES TO MINUS 49DEGREES, AND MINUS 50DEGREES TO MINUS 60DEGREES.

UNCLASSIFIED

USSR

UDC 542.91:547.413

BEKKER, R. A., ASRATYAN, G. V., LUR'YE, E. P., and DYATKIN, B. L., Institute of Metal Organic Compounds, Academy of Sciences USSR

"Synthesis of Fluoroolefines by the Reaction of Polyfluorochlorocarbonols With Phosphorus Pentasulfide"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 5, May 73, p 1159

Abstract: Reaction of polyfluorochlorocarbonols with P_2S_5 leads to the formation of fluoroolefines: 1,3,3-trichloro-2-methylperfluoropropanol-2 yields 1-fluoro-1,1-dichloro-2-(difluorochloromethyl)propene, b.p. 120° , and 1,3-dichloro-2-phenylperfluoropropanol-2 yields α -(difluorochloromethyl)- β,β -difluorostyrene, b.p. $82^\circ/40\text{mm}$.

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USSR

UDC 656.61.052

KRASNIKOV, V. S., LUR'YE, I. YU., SHCHUKIN, V. B.

"Optimization of a Ship Course-Keeping System"

Leningrad, Sudostroyeniye, No 10, 1971, pp 40-42

Abstract: A mathematical simulation method is proposed for optimization of a ship course-keeping system. The control system and results of the simulation are depicted graphically. Use of a relay course-keeping system with one control input interval permits a decrease in the energy losses during maneuvering to be obtained by comparison with other relay systems. The proposed relay-course-keeping system has a great advantage as a result of simplification of the operating conditions of the steering system. Practical implementation of the developed system does not require significant changes in the existing course-keeping system especially since it can easily be made optimal with respect to speed. The investigated principle for constructing a course-keeping system for the maneuvering mode can also be used for the automatic course stabilization mode. Optimality of operation of the system is based on minimizing the following criterion:

$$J = \int_0^t |\Delta v| dt,$$

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USSR

KRASNIKOV, V. S., et al., Sudostroyeniye, No 10, 1971, pp 32-34

where Δv is the speed loss of the ship on changing course;

t is the time of making the optimality estimate.

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-55-

USSR

UDC 621.382

BUBNOV, Yu. Z., LUR'YE, M. S., TOKAREV, P. D.

"A Device for Vacuum Application of Films of Semiconductor Compounds"

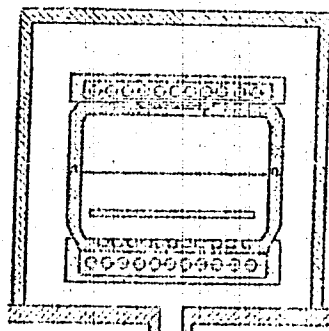
Moscow, Otkrytiya, izobreteniya, promyshlennyye obratzsy, tovarnyye znaki, No 22, Aug 71, Author's Certificate No 309416, Division II, filed 17 Feb 70, published 9 Jul 71, p 204

Translation: This Author's Certificate introduces a device for vacuum application of films of semiconductor compounds. The device contains an enclosed chamber in which the substrate is located together with a shield and the material to be vaporized. The unit also contains heating elements. As a distinguishing feature of the patent, films of stoichiometric composition and structure are produced by making the ratio of the length of the chamber to its diameter 0.5-1.5.

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USSR

BUBNOV, Yu. Z., et al., Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 22, Aug 71, Author's Certificate No 309416, Division H, filed 17 Feb 70, published 9 Jul 71, p 204



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AP0019027 INTERNAT. AEROSPACE ABST. 2/70 UR0040

A70-13330 #

APPLICATION OF A VARIATIONAL PRINCIPLE TO THE STUDY OF THE PROPAGATION OF DISCONTINUITY SURFACES IN A CONTINUOUS MEDIUM (ISPOL'ZOVANIE VARIATSIONNOGO PRINTSIPA DLIYA IZUCHENIIA RASPROSTRANENIIA POVERKHNOSTEI RAZRYVA V SPLOSHNOI SREDE).

M. V. Lur'e.

Prilozhenie Matematika i Mekhanika, vol. 33, July-Aug, 1969, p. 602-608. 9 refs. In Russian.

Theoretical study of the development of discontinuities in continuous media. A generalized variational relation proposed previously by the author (1966) is extended to media containing cracks. Discussed specifically is a medium whose energy and stresses are functions of the strain tensor gradient. The properties of a singular solution to the plane problem of crack propagation near the perimeter of such a medium are analyzed.

V. Z.

19610676

AP0039455

(C) BIOLOGICAL ABSTRACTS 270 UR 0000

13121. LUR'E, O. B., R. E. BYKOV, and E. P. POPECHITEL'NY.
Tsvet kak kriteriy pri avtomatizatsii opredeleniya leukotsitarnoi
formuly krovi. [Color as a criterion in the automatic determination
of the different leukocyte count.] TR SEV-ZACH POLITEKH ESST
3, 24-25, 1968. Translated from REF ZH BIOL., 1969, No. 6N139.
--A description is given of an apparatus which uses a FEU-15 A to measure
the spectral characteristics of blood smears in the blue, green and
red areas of the spectrum as separated by light filters CC-8, 39-1
and KS-11. It is possible to determine the color under study in the
international XYZ system. Zones corresponding to the color of the
leukocyte (nuclei and cytoplasm) did not overlap with zones corres-
ponding to the color of the background and the erythrocytes, i. e.,
during the analysis the leukocytes may be separated from the erythro-
cytes and separated from the background of the smear. Using the
electronic analyzer, correct estimates were given of 91% of the formed
elements presented. The color analysis may be used as a criterion for
the recognition of objects whose color is determined by non-overlapping
areas in the planes of the color chart.

19740696

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AA9046412

LUR'YE OL

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 5/69

226349 CLAMP FOR TESTING STEEL CABLE BREAKING

STRENGTH to increase productivity and
test accuracy for cables of different diameters.
Pulley (1) has a wide flat bottom groove and is held
between cheek plates with eccentrically positioned
pin (3). At the end of the cheek plates is a multi
aided cam (2), in the edges of which are radiused
grooves corresponding to the different cable sizes.
The whole assembly is held in the machine by
bracket (5). With increasing pull on the cable,
cam (2) clamps the cable harder.

3.3.67. as 1139682/25-27, LUR'YE, O.L., et al. Odessa
Polytechnic Inst. (9.1.67) Pat. 2675.9.68. Class
47d, Int. Cl. F 06g.

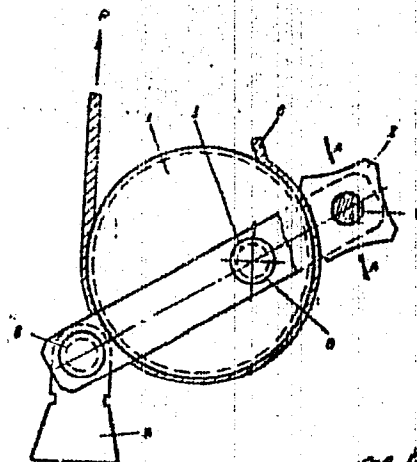
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AP0002673 (C) BIOLOGICAL ABSTRACTS 10/61 410206

105461. LUR'E, S. S., and N. I. KYASNAYA. (Cent. Res. Inst. Venerol., Min. Health USSR, Moscow, USSR.) Sravneniye izucheniye chuvstvitel'nosti gonokokkov k razlichnym antibiotkam. [Comparative study of the gonococci sensitivity to different antibiotics.] VESTN DERMATOL VENEROL 43(2): 46-49, 1969. [Engl. sum.]--A comparative study of sensitivity of gonococci isolated in Moscow in 1965-1967 to some antibiotics: penicillin, ampicillin and Levomycetin (xonlazid) (73 strains per each) and tetracycline (144 strains) was conducted. Ampicillin was found to be highly effective, particularly for strains with reduced sensitivity to penicillin. Determination of sensitivity to tetracycline revealed an increasing resistance to this antibiotic in recent years. High sensitivity of gonococci to Levomycetin was observed which did not change as compared with 1958. --M. M. T.

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OR

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UNCLASSIFIED

PROCESSING DATE--03JUL70

TITLE--A CONVENIENT NUTRIENT MEDIUM FOR GROWING GOCCOCCII FROM THE
PATHOLOGICAL MATERIAL -L-

AUTHOR--LYCHINIKOV, N.M., LURYE, S.S., DANILOVA, T.N.

COUNTRY OF INFO--USSR

SOURCE--VESTNIK DERMATOLOGII I VENEROLOGII, 1970, NR 1, PP 67-71

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CULTURE MEDIUM, VENERAL DISEASE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1979/0874

STEP, NC--UR/C2C6/70/OC0/001/0067/0071

CIRC ACCESSION NO--APOC47348

UNCLASSIFIED

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Acc. Nr: **AP0047348**

Ref. Code: **VR0106**

PRIMARY SOURCE: Vestnik Dermatologii i Venerologii, 1970,
Nr 1, pp 67-71

A CONVENIENT NUTRIENT MEDIUM FOR GROWING GONOCOCCI FROM THE
PATHOLOGICAL MATERIAL

N. M. Ovchinnikov, S. S. Lur'e, T. N. Danilova

Summary

Simple nutrient media are not suitable for primary isolation of gonococcus. A better medium is one with the addition of ascitic fluid. At present, however, it is difficult to obtain ascitic fluid in sufficient amounts. A number of ascitic-free media has been prepared which are quite good for primary isolation of gonococci from the pathologic material. Ingredients used for preparation of the media are readily available.

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REEL/FRAME
19790874

USSR

UDC 681.327

BEKKER, Ya. M., LUR'YE, Ye. V., and FROLOV, N. D.

"Chemical Pickling of Ferrites as a Technological Method of Creating Integral Memories"

Elektron. tekhnika. Nauch.-tekhn. sb. Mikroelektronika (Electronic Engineering. Scientific and Technical Collection. Microelectronics), 1970, vyp. 5 (26), pp 40-48 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 6, Jun 71, Abstract No 6 B285)

Translation: Results from studying the process of machining ferrite plates by the chemical pickling method are presented. The surface state and the pickling rate are investigated as functions of the nature of the pickling agent, its concentration, and temperature. It is pointed out that for a VI-2 type ferrite, the best pickling agent is a mixture of acids. The magnetic properties of the ferrite do not change during the pickling process. It is noted that chemical pickling can serve as the technological process used to create microholes and also complex designs and reliefs on the surfaces of ferrite plates. There are 9 illustrations and an 8-entry bibliography.

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- 77 -

APPROVED FOR RELEASE: 09/19/2001

AP9018816

CA 6/69

CIA-RDP86-00513R002201830003-2"

UR/0138

USSR

UDC: 615.473.9:615.832.9

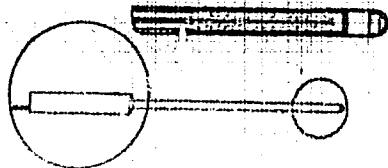
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SHAL'NIKOV, A. I., ZYUKIN, N. A., GDOVSKIY, V. A., LUR'YE, Yu. Yu., MASLOV, F. M., FREYDOVICH, A. I., Institute of Physical Problems imeni S. I. Vavilov

"A Device for Directional Freezing of Tissues"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztzy, Tovarnyye Znaki, No 12, Apr 72, Author's Certificate No 333951, Division A, filed 11 Nov 70, published 30 Mar 72, p 19

Translation: This Author's Certificate introduces a device for directional freezing of tissues which contains a vacuum-insulated vessel holding two parallel tubes for delivery and removal of a cooling agent. The device also contains a heat-insulation liner, a charcoal getter and a tip. As a distinguishing feature of the patent, in order to freeze tissues arranged eccentrically relative to the longitudinal axis of the device, a wire helix with high heat conductivity is placed in fixed contact with the tip.



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AP9048398

CHEMICAL ABST.

LURYE UR3259

84875r Sorption and desorption of polyhydric phenols.
 Lur'e, Yu. Yu.; Panova, V. A.; Nikolaeva, Z. V. (VNI VOD-
~~STO~~, Moscow, USSR). *Gid-rokhim. Mater.*, 1969, 49, 225-30
 (Russ). Resorcinol (I), catechol (II), hydroquinone (III), and
 pyrogallol (IV), (500 ml. aq. solns. contg. 10 mg./l. of the resp.
 phenol; pH 1) were passed through a 25 ml. buret contg. an Fe
 free activated C type BAU (3 g.; height of the layer 19 cm.) or
 AC-5 (8 g.; 24 cm.) at a speed of 200 ml./hr. (BAU is a charcoal
 from birch wood, AC-5 from mineral coal). Phenols were extd.
 from the coal in a Soxhlet app. with MeOH or a MeOH-C₂H₅Cl₂
 azeotrop mixt. for 8-50 hrs. Yields of 40-50% were raised to
 75% I and 100% II-IV by addn. of 1 g./l. Na₂SO₃ to aq. solns.

J. Panchartek

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"APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002201830003-2

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R002201830003-2"

1/2 034 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--ANALOGUE COMPUTER DEVICE FOR DETERMINING THE ERROR OF THE
EXPERIMENTAL CORRELATION FUNCTION -U-
AUTHOR--LURYE, Z.YA.
COUNTRY OF INFO--USSR
SOURCE--MEKH. AVTOMAT. UPRAVLENIYA (USSR), NO. 6, P. 49-51 (1968)
DATE PUBLISHED-----68
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR.
TOPIC TAGS--AUTOMATIC CONTROL SYSTEM, ANALOG COMPUTER, PERTURBATION,
DIGITAL COMPUTER APPLICATION, ERROR ANALYSIS, SIGNAL CORRELATION,
CORRELATION FUNCTION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--3007/0489 STEP NO--UR/0432/68/000/006/0049/0051
CIRC ACCESSION NO--AP0135952
UNCLASSIFIED

2/2 034

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0135952

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CORRELATION FUNCTIONS FOR INVESTIGATIONS OF OBJECTS AND SYSTEMS OF AUTOMATIC CONTROL SUBJECT TO RANDOM PERTURBANCES ARE CONSIDERED, AND A MATHEMATICAL EXPRESSION IS GIVEN FOR THE DISPERSION OF SUCH A CORRELATION FUNCTION. FOR THE SOLUTION OF THIS EQUATION, AN ANALOGUE SCHEME IS PROPOSED WHICH COMPRISES A RELATIVELY SMALL NUMBER OF RESOLVING ELEMENTS, GUARANTEEING AN APPARATUS ERROR OF 1-3PERCENT. (THE EXACT VALUE OF THIS ERROR MAY BE DETERMINED BY TABULAR FUNCTIONS AND BY DIGITAL COMPUTER). THE ERROR OF THE CORRELATION FUNCTION DETERMINED BY A FINITE TIME REALIZATION CONSIDERABLY EXCEEDS THE ERROR OF THE GIVEN ANALOGUE APPARATUS. IT IS NOTED THAT A 5-15PERCENT ERROR IN THE DETERMINATION OF THE CORRELATION FUNCTION IS COMPLETELY ACCEPTABLE BOTH IN WORKING OUT COMBINED SYSTEMS OF AUTOMATIC CONTROL AND IN THE STATISTICAL INVESTIGATION OF THE WORKING OF SUBUNITS OF MECHANISMS AND MACHINES. CONSEQUENTLY, THE ERROR OF THE ANALOGUE METHOD DOES NOT REDUCE THE PRECISION DEFINED IN THE GIVEN CASE OF THE PROBABILITY CHARACTERISTIC. THE USE OF A UNIVERSAL DIGITAL COMPUTER IS NOT ADVANTAGEOUS IN VIEW OF THE FAIRLY SIMPLE ALGORITHM AND LOW REQUIREMENTS FOR REGARDING PRECISION. THE ADVANTAGES OF THIS DEVICE ARE THE SIMPLICITY AND RELIABILITY (SINCE STANDARD BLOCKS OF ANY ANALOGUE COMPUTER MAY BE USED), THE POSSIBILITY OF INVESTIGATING CORRELATION FUNCTIONS RECORDED ON PAPER AND POSSESSING A WIDE FREQUENCY RANGE, AND THE ACCESSIBILITY OF OPERATION FOR SPECIALISTS IN DIFFERENT FIELDS.

UNCLASSIFIED

Acc. Nr.: AP0030186

Ref. Code: UR 3418

PRIMARY SOURCE: Teoreticheskaya Elektrotekhnika, 1969, Nr 6,
pp 80-85

Lur'ye, Z.Ya.; Simbirskaya, L.M.

SOME METHODS OF THE COMPUTER-AIDED PROBABILITY ANALYSIS
OF ELECTRONIC CIRCUITS

Summary

The article deals with the methods of approximate decomposition into series of
gliding mean value and with the frequency method which should be used in the proba-
bility analysis of electronic circuits. Practical advices are given for methods of solu-
tion of some problems. Required statistical characteristics could be determined on
analog computers. The error of the devices was estimated and is equal to 2-5%.

REEL/FRAME

19681991

AP0012521 NUCLEAR SCI. ABST. 12/69 UR 9056

48241 MORPHOLOGICAL CHANGES OF CARCINOMA OF
CARDIO-ESOPHAGEAL LOCALIZATION FOLLOWING INTENSE
IRRADIATION ON THE ROCUS UNIT. ~~Y. K. Pektorskaya, T. A.;~~
Chebotareva, T. I. (Inst. of Experimental and Clinical Oncology,
Kiev). Arkh. Patol., 31: No. 7, 32-5(1969). (In Russian).

Morphological changes in tumors of the stomach following in-
tensive preoperative irradiation on the Rocus unit (total dose 4000
to 4500 rad) are reported. Peculiar dystrophic changes terminated
by cell death were revealed in cancer cells. The extent of these
changes did not depend on the histological structure of the tumor.
(auth)

19571391

USSR

UDC 621.771.063

POLUKHIN, V. P., LUR'YEV, V. V. and ALESHIN, A. P.

"An Electronic Model for Investigating Installed Continuous Rolling Processes"

Moscow, Plasticheskaya Deformatsiya Metallov i Splavov, "Metallurgiya"
Publishing House, No 64, 1970, pp 15-19

Translation: An electronic model of a four-stand continuous cold rolling mill is created on the basis of the method of joining individual stands by tension.

MN-7 analog computers were used during the modelling. A schematic diagram of the model is given, and a sample calculation is made. Three illustrations and five bibliographic entries.

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- 19 -

USSR

UDC 621.771.019.53.072

POLUKHIN, V. P., LUR'YEV, V. V., and ALESHIN, A. P.

"Modelling Uninstalled Rolling Processes on an Analog Computer"

Moscow, Plasticheskaya Deformatiya Metallow i Splavov, "Metallurgiya"
Publishing House, No 64, 1970, pp 19-23

Translation: An electronic model designed to investigate the dynamics of the rolling process is described.

The modelling was done on an EMI-10 analog computer.

The equations of the "i" stand are given in increments. A block diagram of the model is given, and a model oscillogram is shown. Two illustrations, one table, and five bibliographic entries.

USSR

UDC 613.632:547.215]:621.017.1

KAZAKOVA, V. V., and LUS, M. B., Novokuznetsk Chemical and Pharmaceutical Institute

"Effect of 2-Bromopentane on Immunobiological Reactivity"

Moscow, Gigiyena Truda i Professional'nyye Zabolevaniya, No 10, 1971, pp 54-56

Abstract: Phagocytosis and sensitivity to Staphylococcal infection were studied in mice exposed for 4 hours daily for 4 months to 0.09 mg/L of 2-bromopentane (an intermediate product of the synthesis of thiopental and pentobarbital) and then inoculated with a Staphylococcal culture. Phagocytosis was found to be depressed after 30 to 60 days of intoxication; the phagocytic index and degree of digestion were markedly lower than in the control. In exposed mice infected with Staphylococci, the inflammatory-necrotic process developed more slowly and was completed sooner than in the control. Thus, while chronic inhalation of 2-bromopentane inhibited phagocytosis and slowed the development of inflammation, it increased the animals' resistance to Staphylococcal sepsis. The phagocytic system remained capable of reacting to a specific antigen (Staphylococci). The author shares A. V. Volkova's view that the inhibition of phagocytosis induced by some chemical and physical factors does not always signify a decrease in natural immunity.

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USSR

UDC: 547.447+547.89

STRAKOV, A. YA., SHULTSA, M. T., LUSE, A., Riga Polytechnical Institute,
Riga, Latvian Sovnarkhoz

"Interaction of 2-Acetyl- and 2-Benzoylindandiones-1,3 with Phenylenediamines"

Riga, Izvestiya Akademii Nauk Latviyskoy SSR: Seriya Khimicheskaya, No 4,
1969, pp 480-483

Abstract: Previously undescribed 11-methyl- and 11-phenyl-5,12-dihydrobenzo-(b)-indene-(1,2-e)-(1,4)-diazepinone-12 are synthesized by interacting 2-acetyl- and 2-benzoylindandione-1,3 with α -phenylenediamine. 2-(α -Phenylamino)-, 2-(α -(p-methoxyphenylamino))-, 2-(α -benzylamino)- and 2-(α -(m-aminophenylamino))ethylidenindandiones-1,3 are synthesized by reacting 2-acetylindandione-1,3 with aniline, p-anizidine, benzylamine and m-phenylenediamine, respectively. 2-(α -Butylamino)- and 2-(α -(m-aminophenylamino))benzylindandiones-1,3 were synthesized by interacting 2-benzoylindandione-1,3 with butylamine and m-phenylene-diamine. 2-Acetyl- and 2-benzoylindandione-1,3 were reacted with p-phenylenediamine in a molar ratio of 1:2 to produce N,N'-(α -(2'-ethylidenindan-1',3'-dionyl))phenylenediamine-1,4 and N,N'-(α -(2'-benzalindan-1',3'-dionyl))phenylenediamine-1,4, respectively.

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AT0002096

CHEMICAL ABST.

11-69

UR 3751

99517z Indices of nitrogen metabolism in the brain of adrenalectomized rabbits. Lusenko, V. S. (Inst. Fiziol. im. Bogomol'tsa, Kiev, USSR). Gormony i obshch. fiziol. Tr. Vses. Nauch. Konf. 1967 (Pub. 1968), 82-8 (Russ). Edited by Komisarenko, V. P. Nauk. Dumka, Kiev, USSR. Exptl. rabbits (wt. 1800-2500 g.) underwent adrenalectomy after being injected i.m. with hydrocortisone (10 mg./kg. body wt.) and deoxycorticosterone acetate (DOCA) (5 mg./kg. body wt.). When symptoms of adrenal insufficiency developed (15-20 days), the brain was extd. and the content of NH_4 , free and bound glutamine, γ -aminobutyric acid, and urea was detd. NH_4 content in brain was the same in adrenalectomized and intact animals. Five of the six N indicators showed a decreased N level after adrenalectomy, the glutamic acid decreased by more than 50% but the urea increased markedly. Disturbances of N metabolism in the brain are in direct relation to the severity of adrenal insufficiency.

J. R. Mase

sci

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Acc. Nr.: AT0042331

Ref. Code: VR 0144

USSR

UDC: 681.2.083.8

FANDEYEV, Ye. I., LUSHCHAYEV, G.A., Novocherkassk Polytechnical Institute

"Investigation of Wall-Layer Temperature Data Units on Analog Computers"

Leningrad, Izvestiya Vysshikh Uchebnykh Zavedeniy, Priborostroyeniye, No 11, 1969, pp 119-123

Abstract: In the article, a relationship is established between the error of a wall-layer temperature data unit under steady-state and transient conditions and the determining criteria. It is proposed that this relationship be defined by means of the method of mathematical simulation.

Reel/Frame

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AUTHOR-- LUSHCHEVSKIY, V.

TITLE-- NEWS

NEWSPAPER-- VODNYY TRANSPORT, NOVEMBER 13, 1969, P 1, COLS 6-7

ABSTRACT-- AN OIL TANKER, THE "AUTSE", CONSTRUCTED BY A FINNISH SHIPYARD, "RAUME-REPOLA", HAS JOINED THE TANKER FLEET OF THE LATVIAN STEAMSHIP LINE. THE "YANIS RAYNIS" AND THE "AUSEKLIS" ARE TWO TANKERS TO BE COMPLETED BY THE SAME SHIPYARD IN 1970.

DA

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1/2 016 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--DETERMINATION OF FOLIC ACID IN FRUITS AND VEGETABLES -U-

AUTHOR--LUSHCHEVSKAYA, G.M.

COUNTRY OF INFO--USSR

SOURCE--VESHCHESTVAM PLODOV YAGOD, 3RD 1966 (PUB. 1968), 476-9

DATE PUBLISHED-----66

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--VEGETABLE CROP, FOOD ANALYSIS, FOLIC ACID, FLUORESCENCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--1996/0188

STEP NO--UR/0000/68/000/000/0476/0479

CIRC ACCESSION NO--AR0117442

UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AR0117442

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. GRIND 50-100 G OF FRESH MATERIAL WITH QUARTZ SAND IN A PORCELAIN MORTAR, TRANSFER THE MASS INTO A 100-250 ML MEASURING FLASK WITH H SUB2 O, HEAT ON A BOILING WATER BATH FOR 30 MIN, COOL, AND DIL. TO THE MARK. FILTER, TRANSFER AN ALIQUOT CONTG. 50-100 GAMMA FOLIC ACID INTO A BEAKER, ADD 2.5 M ACETATE BUFFER PH 4 TO PH 4, ADD 4PERCENT KMNO SUB4 TO PERMANENT PINK COLOR, MIX, AND DESTROY EXCESS KHNO SUB4 WITH 3PERCENT H SUB2 O SUB2. ADJUST THE PH TO 4, AND PASS THROUGH COLUMN OF DIATOMITE ACTIVATED BY THE METHOD OF A. M. EPEL'BAUM AND G. M. LUSHCHEVSKAYA (1958) AND WASHED WITH 3 ML 0.25 M ACETATE BUFFER, PH 4. AFTER FOLATE ABSORPTION, WASH WITH BUFFER, AND ELUTE THE PH TO 4 WITH 5N HCL, DIL. TO VOL., AND MEASURE THE FLUORESCENCE INTENSITY IN A FLUORIMETER. QUENCH FOLATE FLUORESCENCE BY ADDN. OF 3-4 ML 40PERCENT NAOH TO 17 ML OF ANALYZED SOLN., AND CALC. FOLATE FLUORESCENCE FROM THE DIFFERENCE OF BOTH READINGS. DET. CONC. FROM A STD. CRUVE. THE FOLIC ACID CONTENT, DETD. BY THIS METHOD WAS: PLUMS AND TOMATOES 0.03, PARSLEY 0.14, CABBAGE 0.014, AND PEPPER 0.21 ME PERCENT OF THE FRESH WT. FACILITY: INST. GERONTOL., KIEV, USSR. FACILITY: URAL. LESOTEKH. INST.: SVERDLOVSK, USSR.

UNCLASSIFIED

1/2 043 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--PERMANENT POLARIZATION CAPACITY OF POLYCARBONATES -U-
AUTHOR--LUSHCHEYKIN, G.A.
COUNTRY OF INFO--USSR
SOURCE--PLAST. MASSY 1970, (3), 34-7
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, PHYSICS, MATERIALS
TOPIC TAGS--POLYCARBONATE RESIN, ELECTRET, ELECTRIC FIELD, ELECTRON BEAM,
IRRADIATION EFFECT, POLYTETRAFLUOROETHYLENE, POLYMETHYLMETHACRYLATE,
POLYIMIDE RESIN, ELECTRIC POLARIZATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--1997/0661 STEP NO--UR/0191/70/000/003/0034/0037
CIRC ACCESSION NO--AP0119569
UNCLASSIFIED

2/2 043

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119569

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POLYCARBONATE (I) ELECTRETS WERE PREPD. BY POLARIZATION IN A D. C. FIELD AT 50DEGREES, BY MECH. PRESSING AT 100-50 ATM.; AND BY IRRADIATING I FILMS WITH A BEAM OF ELECTRONS. LIKE POLY(TETRAFLUOROETHYLENE) (II), POLARIZED I SAMPLES RETAINED THEIR POLARIZATION FOR A LONG TIME. I, POLY(ME METHACRYLATE), AND POLYIMIDE MECH. ELECTRETS WERE JUST AS STABLE AS II THERMAL ELECTRETS.

UNCLASSIFIED

USSR

UDC 533.9.07

GOLOVANIVSKIY, K. S., LUSHCHIK, A. I.

"Formation of a Synthesized Cesium Plasma Beam, Part I"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 40, No 7, 1970,
pp 1490-1496

Abstract: The purpose of this article is to describe experiments for studying the mechanism of space-charge neutralization and the beam current of accelerated cesium ions, as well as the process for the formation of a synthesized quasi-neutral plasma. This work is a consequence of earlier work done by these same authors in which the measurement of the plasma parameters permitted judging the degree of neutralization under different conditions but the neutralization mechanism of the space charge and especially of the current under steady-state conditions was extremely difficult to explain. The experimental equipment is described and a schematic of its arrangement given: it consists of an ion source, which works on the principle of surface ionization of the cesium on heated tungsten and to which a positive accelerating pulse is applied; an accelerating system consisting of an accelerating and a delaying electrode, the latter given

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USSR

GOLOVANIVSKIY, K. S., et al, Zhurnal Tekhnicheskoy Fiziki, Vol 40, No 7, 1970, pp 1490-1496

a permanent zero potential and the former supplied with a small negative potential to serve as a barrier against electrons coming from the drift space to the ion source; a neutralizer consisting of a tungsten filament heated by a half-period of 50-Hz current such that the neutralizer is strictly equipotential during the half-period in which current does not flow through the filament; and finally, a target collector, which is covered with an aquadag layer to discourage the emission of secondary electrons. Both the neutralizer and target can be moved along the axis of the beam without in any way violating the vacuum. The article is profusely illustrated with oscillograms of ion current pulses under various conditions.

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USSR

UDC 539.2

LUSHCHIK, Ch. B., and GINDINA, R. I.

"Cleanliness and Perfection of Ionic Crystals for Physical Research"

V sb. Metody analiza galogenidov shchelochnykh i shchelochnozemel'nykh metallov vysokoy chistoty (Methods for Analyzing Alkali Halides and Alkali Earth Metals of High Purity -- collection of works) Part I, Kharkov, 1971, pp 5-8 (from RZh-Fizika, No 9, 1971, Abstract No 9E235)

Translation: The authors discuss the basic requirements for the purity and perfection of ionic crystals used for scientific and applied research, including research of a fundamental nature. Resume

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- 86 -

1/2 021 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--DIFFUSION AND AUTOLOCALIZATION OF EXCITONS IN NaCl AND Ag CRYSTALS
-U-
AUTHOR--(03)-VASILCHENKO, YE.A., LUSHCHIK, N.YE., LUSHCHIK, CH.B.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERD. TELA 1970, 12(1), 211-15
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, PHYSICS
TOPIC TAGS--SODIUM CHLORIDE, LUMINESCENCE, SILVER, CRYSTAL, EXCITON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1984/0224 STEP NO--UR/0181/70/012/001/0211/0215
CIRC ACCESSION NO--AP0055020
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--19SEP70

CIRC ACCESSION NO--AP0055020

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FAST (TAU SMALLER THAN 1 SEC) LUMINESCENCE OF AG PRIME POSITIVE CENTERS WAS INVESTIGATED IN NaCl-AG CRYSTALS WHEN EXCITONS ARE CREATED BY THE LIGHT QUANTA OF 8.1 EV. AT 295DEGREES K THE EFFICIENCY OF THE EXCITON MECHANISM OF EXCITATION OF AG PRIME POSITIVE CENTERS η_{SUBEX} VARIES FROM 0.62 TO 0.01 WHEN THE CONC. OF ACTIVATOR DECREASES FROM 1 TO 0.005 MOLE PERCENT IN THE CRYSTAL. COOLING OF THE CRYSTALS TO 160DEGREES K LEADS TO A DECREASE IN η_{SUBEX} TO AS MUCH AS ONE TWELFTH THAT AT 295DEGREES K. AT 160-80DEGREES K, THE MAGNITUDE OF η_{SUBEX} IS INDEPENDENT OF TEMP. IN CRYSTALS OF NaCl-AG, 2 EXCITON MECHANISMS OF EXCITATION OF THE IMPURITY CENTERS ARE REALIZED, THE LOW TEMP. MECHANISM IS RELATED TO MIGRATION OF HOT EXCITONS OVER SEVERAL UNIT CELL LENGTHS AND THE HIGH TEMP. MECHANISM, WITH THE TEMP. OF THE DIFFUSION OF AXIALLY RELAXED EXCITONS. RELAXING EXCITONS ARE AUTOLOCALIZED AT T LESS THAN 170DEGREES K APPROX. WHERE THE RELAXING HOLES ARE PRESENT.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--DIFFUSION AND AUTOLOCALIZATION OF EXCITONS IN NaCl AND Ag CRYSTALS
-U-
AUTHOR--(03)-VASILCHENKO, YE.A., LUSHCHIK, N.YE., LUSHCHIK, CH.B.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERD. TELA 1970, 12(1), 211-15
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, PHYSICS
TOPIC TAGS--SODIUM CHLORIDE, LUMINESCENCE, SILVER, CRYSTAL, EXCITON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1984/0224 STEP NO--UR/0181/70/012/001/0211/0215
CIRC ACCESSION NO--AP0055020
UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0055020

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FAST (τ SMALLER THAN 1 SEC) LUMINESCENCE OF AG PRIME POSITIVE CENTERS WAS INVESTIGATED IN NaCl-AG CRYSTALS WHEN EXCITONS ARE CREATED BY THE LIGHT QUANTA OF 8.1 EV. AT 295DEGREES K THE EFFICIENCY OF THE EXCITON MECHANISM OF EXCITATION OF AG PRIME POSITIVE CENTERS η_{SUBEX} VARIES FROM 0.62 TO 0.01 WHEN THE CONCN. OF ACTIVATOR DECREASES FROM 1 TO 0.005 MOLE PERCENT IN THE CRYSTAL. COOLING OF THE CRYSTALS TO 160DEGREES K LEADS TO A DECREASE IN η_{SUBEX} TO AS MUCH AS ONE TWELFTH THAT AT 295DEGREES K. AT 160-80DEGREES K, THE MAGNITUDE OF η_{SUBEX} IS INDEPENDENT OF TEMP. IN CRYSTALS OF NaCl-AG, 2 EXCITON MECHANISMS OF EXCITATION OF THE IMPURITY CENTERS ARE REALIZED, THE LOW TEMP. MECHANISM IS RELATED TO MIGRATION OF HOT EXCITONS OVER SEVERAL UNIT CELL LENGTHS AND THE HIGH TEMP. MECHANISM, WITH THE TEMP. OF THE DIFFUSION OF AXIALLY RELAXED EXCITONS. RELAXING EXCITONS ARE AUTOLOCALIZED AT t LESS THAN 170DEGREES K APPROX. WHERE THE RELAXING HOLES ARE PRESENT.

UNCLASSIFIED

USSR

UDC: 532.517.4:532.542.4

ABRAMOVICH, G. N., KOVNER, K. S., LUSHCHIK, V. G., Moscow Aviation Institute
Imeni Sergo Ordzhonikidze

"Concerning the Action of a Magnetic Field on Turbulence in a Shear Flow"

Moscow, Doklady Akademii Nauk SSSR, Vol 202, No 4, 1 Feb 72, pp 783-786

Abstract: Experimental research shows that when a magnetic field is imposed upon the turbulent flow of an electrically conductive liquid, the level of turbulence, the friction stress, and the intensity of heat exchange usually decrease. The influence of the magnetic field on these turbulence characteristics can be qualitatively explained and quantitatively evaluated on the basis of Prandtl's mixing-path theory. In a turbulent flow in the absence of a magnetic field, it is usually assumed that from the moment of origin of a discrete turbulent mole until fusion with a new layer of liquid it moves by inertia, retaining a constant value of velocity, and at the moment of loss of its individuality it creates a velocity pulsation equal to the difference of the averaged velocities at the length of the mixing path. It can be seen that the forces acting upon the mole in a magnetic field are always directed against the motion, in other words they bring about a decrease of the pulsation velocities, the pulsation-force component in the direction of the magnetic field being equal $1/2$

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ABRAMOVICH, G. N., et al., Doklady Akademii Nauk SSSR, Vol 202, No 4,
1 Feb 72, pp 783-786

to 0. Expressions for turbulent friction in two-dimensional flow can be obtained for various orientations of the external magnetic field. On the basis of the obtained expressions for turbulent friction, consideration is given to the flow of an electrically conductive liquid in a free boundary layer in the simplest case, when the influence of the magnetic field with average motion is absent (the case of a longitudinal field and a circumferential field). From formulas obtained with the presence of a magnetic field, it becomes evident that an increase in the value of the criterion of magneto hydrodynamic interaction (of the magnetic field) brings about a narrowing of the mixing-zone width in comparison to the case of the absence of a magnetic field. 6 references.

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1/2 062 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--TURBULENT FLOW OF A CONDUCTING FLUID IN A LONGITUDINAL MAGNETIC
FIELD -U-
AUTHOR--(02)-KCVNER, D.S., LUSHCHIK, V.G.
COUNTRY OF INFO--USSR
SOURCE--AKADEMIYA NAUK SSSR, IZVESTIYA, MEKHANIKA ZHIDKOSTI I GAZA,
JAN.-FEB. 1970, P. 10-17.
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--LONGITUDINAL MAGNETIC FIELD, TURBULENT FLOW, PLASMA
CONDUCTIVITY, STRESS ANALYSIS, TENSOR ANALYSIS, PRANDTL NUMBER,
TURBULENT BOUNDARY LAYER

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1992/1457

STEP NO--UR/G421/70/000/000/0010/0017

CIRC ACCESSION NO--AP0112431

UNCLASSIFIED

2/2 062

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0112451

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DEVELOPMENT OF A SEMIEMPIRICAL TURBULENCE THEORY ON THE BASIS OF THE REYNOLDS STRESS TENSOR EQUATIONS (TURBULENT ENERGY BALANCE EQUATIONS) FOR THE CASE OF THE FLOW OF A CONDUCTING FLUID IN A LONGITUDINAL MAGNETIC FIELD. THE INFLUENCE OF THE FIELD IS TAKEN INTO ACCOUNT BY A TERM DESCRIBING THE JOULE DISSIPATION OF TURBULENT ENERGY. A HYPOTHESIS CONCERNING THIS TERM IS FORMULATED WHICH HAS A CLEAR PHYSICAL MEANING AND WHICH TAKES CHANGES IN THE TURBULENT STRUCTURE OF THE FLOW IN A MAGNETIC FIELD INTO ACCOUNT. IT IS SHOWN THAT BY USING THIS HYPOTHESIS, TOGETHER WITH ROTTA'S (1951) RELATIONS FOR THE OTHER TERMS IN THE EQUATIONS FOR THE REYNOLDS STRESS TENSOR, IT IS POSSIBLE TO OBTAIN AN EXPRESSION FOR THE TURBULENT FLOW. THIS EXPRESSION IS ANALOGOUS TO THE WELL KNOWN PRANDTL'S RELATION, EXCEPT FOR THE FORM OF THE COEFFICIENT DESCRIBING THE INFLUENCE OF THE MAGNETIC FIELD.

UNCLASSIFIED

USSR

UDC 681.846.73

ZVOLINSKIY, V. M., LYUBCHENKO, O. M., LUSHCHIKHIN, YU. A.

"Magnetic Recording and Reproduction Device"

USSR Author's Certificate No 310297, filed 13 Mar 70, published 24 Sep 71 (from
RZh --Avtomatika, Telemekhanika i vychislitel'naya tekhnika, No 4, Apr 72,
Abstract No 4A533P)

Translation: A magnetic recording and reproduction device is proposed which contains a drive shaft, coils, and an analyzer in the form of a drum with magnetic heads attached to it. In order to achieve the minimum and uniform clearance between the tape and the drum, an air nozzle is installed above the turn of the tape encompassing the drum. This nozzle directs a stream of compressed air on the tape in the area where the drum surface moves under the tape. There is 1 illustration.

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LUSHCHIKHINA, I. M.

50, JPRS 53163
12 MAY 71

DISCUSSION OF ALL ORAL RELEASE BY AN AIRPORT DISPATCHER
FROM A NUMBER OF OPERATING COMMUNICATION CHANNELS

I. M. Lunichikhina (Psychology)

pp 51-53

the detector maintains communication -- visual, tactile, and so on -- on a control panel with several objects at the same time. Therefore he must continually deal with the problem of selecting the proper signal. It is felt that an operational dispatcher is certain of the informational significance of each channel in practice. He knows beforehand which signals would arrive in certain moments of time, and therefore he does not worry, as would a novice, about all communication channels on one side, however. In the case of high information density the difficulties are approximately the same for both the dispatcher and the beginning operator. A consequence of such a difficulty and the beginning operator's adaptation of such a density increase is a significant deterioration of work results.

An airport dispatcher concentrates basically on spoken verbal information, which arrives along several channels (up to three). Observations conducted at the Yankovsk Airport at Moscow showed that the dispatcher himself, without the aid of control room equipment for the purpose of increasing the intensity of some signals, seldom other messages louder, and takes out channels not needed by him altogether, and so on. In actual fact, each concentration of the attention remains somewhat "isolated" and frequently the attention remains on the radio is raised. And the operator, because of the fact that he has to be so occupied for minutes) errors of a more serious nature are inevitably seen.

The first of these is the fact that the majority of the population in the country is engaged in agriculture. This is a fact which has been recognized by the Government, and it is one of the main reasons why the Government has been so anxious to develop the agricultural sector of the economy. The second of these is the fact that the majority of the population is engaged in agriculture. This is a fact which has been recognized by the Government, and it is one of the main reasons why the Government has been so anxious to develop the agricultural sector of the economy.

The following is a list of the names of the persons who have been appointed to the various positions in the Department of the Interior, under the act of March 3, 1879, entitled "An Act to provide for the better management of the public lands, and for other purposes."

Surgery

USSR

UDC 616-089.5:623.827

LUSHCHITSKIY, M. A., Maj Gen Med Serv, Doctor of Medical Sciences, PORSEBBSKIY, O. B., Col Med Serv, Doctor of Medical Sciences, and GRINEV, M. V., Lt Col Med Serv, Doctor of Medical Sciences

"Methods of Anesthesia Suitable for Surgery on Submarines"

Moscow, Voenno-Meditsinskiy Zhurnal, No 6, 1972, pp 68-71

Abstract: The limited medical personnel, equipment, and space available on submarines make inhalation anesthesia infeasible and limit the choice to the following methods. In cases of acute uncomplicated appendicitis -- premedication with long-action barbiturates or dimedrol, local anesthesia with novocain or trimecaine, and right paranephral block. In cases of acute appendicitis with peritonitis -- premedication and local anesthesia combined with intramuscular morphine-scopolamine or with intravenous drip-infusion of sodium thiopental dissolved in alcohol are recommended. In cases of perforated ulcer -- premedication, intravenous thiopental, local anesthesia, and local infiltration anesthesia. In cases of wounds in extremities -- anesthesia with available equipment, intramuscular morphine-scopolamine, and intraosseal anesthesia are suggested. In cases of abdominal wounds requiring laparotomy -- premedication, intravenous thiopental, and local anesthesia. The exact doses, timing, and

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USSR

LUSHCHITSKIY, M. A., et al., Voenno-Meditsinskiy Zhurnal, No 6, 1972, pp 68-71

Mode of administration are specified, and suggestions concerning advance preparation of solutions and training of personnel are made.

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USSR

UDC 615.331 (PRODIGIOSANUM).015.46

YERMOL'YEVA, Z. V., VAYSBERG, G. YE., BRAUDE, A. I., TARANENKO, L. A.,
LUSHINA, L. A., GIVENTAL', N. I., and SHCHERRAKOVA, E. G., Laboratory of
Medical Pathology and Laboratory of New Antibiotics, Chair of Microbiology,
TsIU [Central Institute for the Advanced Training of Physicians], Moscow

"The Effect of Prodigiozan Inhalation on the Immunological Reactivity of the
Human Body"

Moscow, Antibiotiki, Vol 18, No 1, 1973, pp 76-79

Abstract: Inhalation of prodigiozan promotes immune reactions in the human
body. Thus, in a group of 78 subjects aged 19 to 59, a single inhalation of
5 ml of a 0.04% prodigiozan aerosol (obtained under 0.5-0.8 atm at a rate of
12-15 L/min) increased the number of active neutrophils from 53 to 74% in 24
hrs in all subjects, and the increased phagocytic activity was maintained at
least up to the 48th hr after inhalation. At the same time, the inhaled
prodigiozan increased alkaline phosphatase activity in the neutrophils of
peripheral blood from 42 to 115 conventional units in 35 out of 39 subjects,
raised lysozyme concentration from 2.7 to 3.5 mcg/ml of blood serum in 12 out
of 27 subjects, and induced formation of interferon in titers of 7-13 units/
ml serum in 10 out of 10 subjects. It is concluded that a single inhalation of
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USSR

YERMOL'YEVA, Z. V., et al., Antibiotiki, Vol 18, No 1, 1973, pp 76-79

prodigiozan aerosol significantly stimulates humoral and cellular components of human immunological reactivity.

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172 046 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--SEVERAL WAYS OF REDUCING THE FLAMMABILITY OF AMMONIUM NITRATE
EXPLOSIVES -U-
AUTHOR-(104)-KONDRIKOV, B.N., ANNIKOV, V.E., KOZAK, G.D., LUSHKIN, V.P.
COUNTRY OF INFO--USSR
SOURCE--V SB. NAUCHNO-TEKH. KONFERENTSIYA. MOSK. KHIM.-TEKHOL. IN-T IM.
REFERENCE--RZH-KHIMIYA, NO 1(11), 10 JAN 70, ABSTRACT NO 1 N351NCE, MOSCOW
DATE PUBLISHED-----70
SUBJECT AREAS--ORDNANCE, PROPULSION AND FUELS, CHEMISTRY
TOPIC TAGS--AMMONIUM-NITRATE, EXPLOSIVE, COAL, LITHIUM, SODIUM COMPOUND,
AMINE DERIVATIVE, HEXOGEN, PHOSPHATE, CALCIUM FLUORIDE, LITHIUM
FLUORIDE, ALUMINUM FLUORIDE, NITROGLYCERIN, FLAMMABILITY
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3003/0019 STEP NO--UK/0000/69/000/000/0113/0114
CIRC ACCESSION NO--AR0129319
UNCLASSIFIED

2/2 046

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AR0129319

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IT IS SHOWN THAT IN THE PRESENCE OF COAL PARTICLES, METHODS OF REDUCING FLAMMABILITY BY MEANS OF LI AND NA FLUORIDES, CYANURIC ACID, AND MELAMINE AS ADDITIVES IN EXPLOSIVES PROVE TO BE LESS EFFECTIVE; ONLY OXALATES AND DIAMMONIUM PHOSPHATES WITHSTAND THE CATALYTIC EFFECT OF COAL. A MIXTURE OF LIF AND CAF SUB2 OR LIF AND NA SUB3 ALF SUB6 IS THE BEST SAFETY EXPLOSIVE ADDITIVE. THE FLAMMABILITY OF EXPLOSIVES RISES WITH GREATER ADDITIVE PARTICLE SIZE. IT IS ALSO POSSIBLE TO CONSIDERABLY REDUCE THE FLAMMABILITY OF EXPLOSIVES CONTAINING HEXOGEN AND NITROGLYCERIN BY THE ADDITION OF DIAMMONIUM PHOSPHATE AND LIF.

UNCLASSIFIED

USSR

UDC 576.858.23(Coxsackie)+576.858.17.083.35

SOVETOVA, G. P., MARCHENKO, B. I., AMCHENKOVA, A. M., BALANDIN, I. G., and LUSHNIKOV, A. A., Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, USSR Academy of Medical Sciences, Moscow

"Chronic Virus Infection in Transplanted Cultures of Human Leukemia Cells (J-96) and Mouse Fibroblasts (L) Produced by Inoculation of Cultures with Coxsackie B₅ and Vesicular Stomatitis Viruses in the Presence of Antisera to the Infected Cell"

Moscow, Voprosy Virusologii, No 1, Jan/Feb 71, pp 10-16

Abstract: In order to evaluate the significance of antiviral antibodies in the development of chronic infection, it is necessary to study them in combination with other immunological factors under natural conditions. Consequently a serum against the infected cells was used to produce chronic infection in a tissue culture. J-96 cell cultures were inoculated with Coxsackie B₅ virus and L cells with vesicular stomatitis virus, and then cultured in the presence of antisera against the infected cells. In 7 of 14 tests with J-96 cultures and in 3 of 4 tests with L cultures, cell strains with properties differing sharply from the original ones were obtained. Starting with the 9th passage, when the cultures were no longer treated with the

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USSR

SOVETOVA, G. P., et al., Voprosy Virusologii, No 1, Jan/Feb 71, pp 10-16

antiserum, and for the remaining observation period (22-48 passages), the cell cultures did not degenerate. The respective viruses were detected in all cell strains. Cytophysiological, morphological, and cytochemical studies were performed, the content of acid-soluble proteins in the various cell cultures, and succinate dehydrogenase activity in tissue culture cells were determined. During the entire observation period, chronic infection never became acute even when no antiserum was in the culture medium. The cultures were highly resistant to superinfection and differed from normal cultures by a considerably reduced content of acid-soluble proteins and by their cytomorphological and histochemical properties.

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USSR

UDC 678.84:678.643'42'5.028

KRUSTALEVA, YE. N., GOLUBKOV, G. YE., ZHINKIN, D. YA., SEMENOVA,
YE. A., MARKOVA, N. V., and LUSHNIKOVA, M. N.

"A New Hardner Which Improves the Thermal Stability of Epoxy Resins"

Moscow, Plasticheskiye Massy, No 1, Jan 70, pp 12-14

Abstract: An investigation was made into the possibility of improving the physicommechanical and dielectric properties of epoxy resins in the high-temperature region by using hexamethylcyclotrisilazane $\text{[(CH}_3\text{)}_2\text{SiNH]}_3$ and polyorganosilazanes containing di- and trifunctional units of the general formula $\text{(R}_2\text{SiNH)}_2\text{[R'Si(NH)}_2\text{)]}_n$ ($\text{R} = \text{CH}_3$, $\text{R}' = \text{CH}_3$, C_6H_5 , $n = 1, 3$) as hardeners. Polymers based on ED-6 epoxy resin and MSN-7 resin (polymethylsilazane) were studied. The compositions were hardened at 120°C for 3 hours, and then additionally heat treated at $150\text{--}200^\circ\text{C}$ for 24 hours. The resultant polymers have better thermal stability in the high temperature region than those in which endic anhydride is used as the hardner. The weight of the epoxy resin hardened by MSN-7 stabilizes after ten days at 250°C whereas the epoxy resin produced by using endic anhydride as a hardner is destroyed under the same conditions with a sharp increase in weight losses. Not only is the thermal stability of the new product improved,

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KHRUSTALEVA, YE. N., et al., *Plasticheskiye Massy*, No 1, Jan 70, pp 12-14

but its mechanical strength and dielectric properties as well. Of particular importance is additional heat treatment at 200°C, which increases the maximum tensile strength of the resin at 155°C from 38 kg/cm² (after heat treatment at 150°C) to 152 kg/cm², and reduces the relative longitudinal extension at fracture (155°C) from 4.5% (after heat treatment at 150°C) to 4.0%. The electrical strength of the new resin at 155°C is 9.8×10^{13} kW/mm as compared with 1.3×10^{13} kW/mm for resin hardened by endic anhydride. The corresponding figures for the dielectric dissipation factor at 50 Hz (155°C) are 0.002 and 0.085 respectively. The new resin also has a lower coefficient of linear expansion in both the vitreous and highly elastic states.

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LUSHNIKOVA M.N.

Acc. Nr.

AP0045175

Abstracting Service:

CHEMICAL ABST.

5-70

Ref. Code

UR0191

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91097n New hardener which increases the thermal stability of epoxy resins. Khrustaleva, E. N.; Golubkov, G. E.; Zhinkin, D. Ya.; Semenova, E. A.; Markova, N. V.; Lushnikova, M. N. (USSR). *Plast. Massy* 1970, (1), 12-14 (Russ). The thermal stabilities of epoxy resins ED-5 and ED-6 hardened with hexamethylcyclotrisilazane, poly(methylsilazane) (resin MSN-7) (I), and poly(methylphenylsilazane) were detd. Thus, ED-6 was hardened with I (0.8 active H present in I per epoxy equiv. ED-6) at 120° for 3 hr followed by addnl. heating at 150-200° for 2 hr. ED-6 hardened with I had higher tensile strength, impact elasticity, and thermal stability than ED-6 hardened with Endic Anhydride.

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REEL/FRAME

19780075

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USSR

UDC 662.75:662.61

BLINOV, V. I., LUSHPA, A. I., KHAYLOV, V. M., and KHUDYAKOV, G. N.

"Burning Rich Kerosene-Air Mixtures in a Tunnel-Type Combustion Chamber"

Moscow, Gorennye i vzryv -- sb. (Combustion and Detonation -- Collection of Works), Nauka Publishing House, 1972, pp 416-420 (from Referativnyy Zhurnal -- Teploenergetika, No 3, 1973, Abstract No 3T71)

Translation: The authors present the results of experimental research in the effect of the excess air ratio ($\alpha = 1.0-0.3$), the air temperature ($T_a = 0-1,000^\circ\text{C}$), and the length of the combustion chamber (0.5-0.2 meters) on the degree of approximation of the mixture and the combustion products' parameters to their equilibrium values in a chamber with an internal diameter of 100 mm and at a pressure of 1.1 kg/cm². As the values of α and T_a are reduced, the difference between the experimental and theoretical parameters increases, while the curves showing the change in the experimental data along the length of the chamber have a greater slope. The authors show that the process of achieving an equilibrium state is limited by the heterogeneous combustion of the solid carbon given off during the thermal decomposition of the kerosene in the initial combustion zone. (4 illustrations; 5 bibliog. ref.)

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USSR

UDC 629.7.036.3:536.46

BLINOV, V. I., LUSHPA, A. I., KHAYLOV, V. M., and KHUDYAKOV, G. N.

"The Combustion of Rich Kerosene-Air Mixtures in a Tunnel-Type Chamber"

Moscow, Goreniye i Vzryv--Sbornik (Combustion and Explosion--Collection of Works), Nauka, 1972, pp 416-420 (from Referativnyy Zhurnal--Aviatsionnyye i Raketnyye Dvigateli, No 2, 1973, Abstract No 2.34.26. Resume)

Translation: Results are presented of an experimental investigation of the influence of the air-excess coefficient ($\alpha = 1.0 \text{ -- } 1.3$), the air temperature ($T_{\text{air}} = 0 \text{ -- } 1000^\circ\text{C}$), and the combustion-chamber length (0.5--2.0 m) upon the degree of approximation of the composition and parameters of the combustion products to their equilibrium values in a chamber with an inner diameter of 100 mm at a pressure of 1.1 absolute atmospheres. The result is obtained that as α and T_{air} decrease, the difference between the experimental and theoretical parameters increases, and the curves of change of the experimental data with respect to the chamber length become flatter. It is shown that the process of attainment of the equilibrium state is limited by the heterogeneous combustion of solid carbon escaping during the thermal decomposition of kerosene in the initial zone of combustion. 4 figures. 5 references.

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USSR

UDC 517.392

LUSHPAY, N. YE., Dnepropetrovsk

"On an Optimal Quadrature for a Class of Differentiable Periodic Functions"

Kazan', Izvestiya Vysshikh Uchebnykh Zavedeniy -- Matematika, No 4, Apr 73, pp 55-63

Abstract: $W_{*L_2}^r$ ($r = 1, 2, \dots$) denotes a class of functions $f(x)$ with a period equal to one and having on the entire axis an absolutely continuous $(r-1)$ -th derivative and an r -th derivative satisfying the condition $\|f^{(r)}\|_{L_2} \leq 1$. The following quadrature formula is considered:

$$\int_0^1 f(x) dx = \sum_{k=0}^{m-1} \sum_{l=0}^p p_{kl} f^{(l)}(x_k) + R(f), \quad (1.1)$$

$$0 \leq p \leq r-1, \quad p_{kl} \equiv p_{k,l}, \quad 0 \leq x_0 < x_1 < \dots < x_{m-1} \leq 1.$$

USSR

LUSHPAY, N. YE., Izvestiya Vysshikh Uchebnykh Zavedeniy -- Matematika, No 4, Apr 73, pp 55-63

By virtue of properties of functions of the class $W_{*}^{r}L_2$, it can be considered that $x_0 = 0$, $x_m - 1 < 1$. The best quadrature formula of form (1.1) is exact for a constant, and the author considers this accomplished. The problem is to find the quantity

$$E_m^{\rho}(W_{*}^{r}L_2) = \inf_{x_k, p_{kl}} \sup_{f \in W_{*}^{r}L_2} |R(f)| \quad (1.2)$$

and the numbers $x_k = x_k^{*}$, $p_{kl} = p_{kl}^{*}$ for which the greatest lower bound is achieved in (1.2). This problem was previously considered by the author in the cases $\rho = r-1$ ($r = 1, 2, \dots$) and $\rho = r-2$ ($r = 2, 4, \dots$), as well as $\rho = r-2$ and $r-3$ ($r = 3, 5, \dots$). The present article gives a solution for this problem in the case of even $\rho = r-4$ and $r \geq 4$.

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- 2 -

UDC 621.374.5(088.8)

USSR

GRUSHIN, S.I., MISHTAK, A.S.

"Converter Of Electrical Pulses"

USSR Author's Certificate No 205556, filed 22 Sept 69, published 5 Aug 71
(from RZh: Radiotekhnika, No 2, Feb 72, Abstract No 20246P)

Translation: A pulse converter is proposed which contains an integrating resistance-capacitance chain at the input, a switching semiconductor diode which forms, together with the load, the discharge circuit of the capacitor of the integrating chain, and a semiconductor diode connected in series with the load. In order to avoid multiple appearance of a signal at the converter output, with entry of one pulse at its input, a second integrating resistance-capacitance chain is connected to the converter input, the capacitor of which is connected in parallel with the switching semiconductor diode. A limiting effective resistance is connected into the discharge circuit of the capacitor.

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USSR

UDC: 621.316.71-505.53:621.317.373

ARTYUKHOV, Ye. A., ELINSON, L. S., LUSKANOV, M. P., YURKOV, V. A.

"A Method of Tuning a Phase Shifter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obrabotsy, Tovarnyye Znaki, No 20, 1970, Author's Certificate No 273267, filed 13 Jan 69, p 49

Abstract: This author's certificate introduces: 1. A method of tuning a phase shifter based on comparing a given phase shift with the phase displacement of the phase shifter to be tuned in a phase tracking system with a pickup, an actuating motor and two communications channels with phase shifter-receiver, resistor-capacitor and resistor-inductor circuits in one of them. As a distinguishing feature of the patent, accuracy monitoring is simplified by setting the pickup shaft in a position in which the voltage across the series-connected rotor windings of the phase shifter is a minimum, then reversing the stator windings of the phase shifter while simultaneously changing the direction of the voltage in one channel by an angle of $+45^{\circ}$, and in the other by an angle of -45° , and adjusting the resistor-capacitor circuit of the phase shifter to reduce the difference in the position of the actuating motor shaft to zero. After this the pickup shaft is set in a position which minimizes the voltage across the windings of the phase shifter and the stator windings are reversed while simultaneously changing the

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USSR

ARTYUKHOV, Ye. A., et al, Otkrytiya, Izobreneniya, Promyshlennyye Obratzsy, Tovarnyye Znaki, No 20, 1970

phase displacement of the voltages in the channels and fixing the difference in the actuating motor shaft position. This difference is reduced to half by adjusting the resistor-capacitor circuit of the phase shifter, and reduced to zero by adjusting the phase shifting circuit in the channel without a phase shifter. 2. A modification of this method with the distinguishing feature that the pickup shaft is set in a position where the voltage across one of the rotor windings of the phase shifter is minimized, the stator windings of the phase shifter are reversed while simultaneously changing the phase displacement of the voltages in the channels, and the resistor-inductor circuit of the phase shifter is adjusted to reduce the change in position of the actuating motor shaft to zero.

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1/2 017 UNCLASSIFIED PROCESSING DATE--20NDV70
TITLE--MEASUREMENT OF AN ELECTRICAL CONDUCTIVITY TENSOR FOR SINGLE
CRYSTALLINE FILMS --U--
AUTHOR--(04)--ANATYCHUK, L.I., DIMITRASHCHUK, V.T., LUSTE, D.YA.,
TERESHCHENKO, YE.B.
COUNTRY OF INFO--USSR
SOURCE--IZV. VYSSH. UCHEB. ZAVED., FIZ. 1970, 13 (2), 146-8
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MEASUREMENT, ELECTRIC CONDUCTIVITY, TENSOR, ELECTRODE, SINGLE
CRYSTAL FILM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--1997/1038

STEP NO--UR/ 139/70/013/002/0146/0148

CIRC ACCESSION NO--AT0119905

UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AT0119905

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD IS DEvised FOR DETG. THE
COND. TENSUR COMPONENTS BY USING A SYSTEM OF 2 PAIRS OF ELECTRODES
PLACED IN FRONT OF ONE ANOTHER ON BOTH SIDES OF THE FILMS.
MEASUREMENTS ARE OBTAINED BY ROTATING THE ELECTRODE SYSTEM AROUND THE
CRYSTAL AXIS. FACILITY: CHERNOVITS. GOSUNIV., CHERNOVTSY,
USSR.

UNCLASSIFIED

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Pesticides

UDC 632.954:633.63

LUT, F. A., (DECEASED), and YAKOVLEVA, A. V., Chernovtsy Experimental Station

"Testing of Herbicides in Sugar Beet Fields"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 8, No 5, May 70, pp 51-53

Abstract: It had been established in 1963-65 that dalepon, alipur, and murbetol were little suited for use as herbicides in sugar beet fields in the moist climate of Bukovina. In 1965-67 tests were conducted with TKhA, tillam, eptam, pyramine, and phenazon. Of these herbicides, pyramine and eptam, applied in the amounts of 6 and 4-6 kg/ha, respectively, had the best effect in reducing contamination with weeds. Pyramine stimulated the growth of sugar beet plants in the initial period of vegetation, while eptam in amounts in which it was effective as a herbicide had a harmful effect on sugar beets and lowered the yield of this crop. Phenazon, which was tested during one year only, was almost as effective as pyramine in reducing the amount of weeds. It had no harmful effect on sugar beet plants, but even stimulated their initial growth and development.

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UDC 537.226+537.311.33/:537+535

AZIMOV, S. A., LUTFULLAYEV, the late A., MIRZABAYEV, M., and KHAYRULLAYEV, SH.,
Physicotechnical Institute imeni S. V. Starodubtsev, Academy of Sciences Uzbek
SSR

"Effect of Single Strain on Resistivity of Hexagonal Silicon Carbide"

Tashkent, Izvestiya Akademii Nauk Uzbekskoy SSR, Seriya Fiziko-Matematicheskikh
Nauk, No 3, 1973, pp 52-54

Abstract: For purposes of studying the effect of mechanical compression stress (along the $[11\bar{2}0]$, $[10\bar{1}0]$, and $[0001]$ axes) on the electric resistance of commercial α -SiC (6H) single crystals of the n and p types, the authors studied the effect of single elastic strain on the resistivity of hexagonal silicon carbide at nitrogen, room, and higher temperatures. The results of longitudinal motional resistance measurements show that the variation dependence of motional resistance with temperatures in the region where acoustic phonon and impurity ion scattering prevails is close to the dependence of $\Delta\rho(X)/\rho(0)$ on T^{-1} and is similar to the dependence obtained for Ge, Si. This indicates that the motional resistance of hexagonal silicon carbide

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AZIMOV, S. A., et al., Izvestiya Akademii Nauk Uzbekskoy SSR, Seriya Fiziko-Matematicheskikh Nauk, No 3, 1973, pp 52-54

samples in the impurity conduction region is due to the effect of charge carrier redistribution between conduction band valleys.

Preliminary studies established that in samples with $\rho > 1 \text{ ohm}\cdot\text{cm}$ the absolute motional resistance coefficient increases with an increase in the temperature and declines appreciably with a decrease in the temperature to 77°K . This is apparently due to the change in the activation energy of the impurities and, hence, in the free carrier concentration as a function of χ and T . The shape of the dependence of $\Delta\rho/\rho$ on χ and T for samples with p-type conduction evidently indicates the degeneracy of the valence band of silicon carbide at the extreme point.

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UDC 547.944

MIRZAMATOV, R. T., MALIKOV, V. M., LITFILLIN, K. I., YUNUSOV, S. YU., Order of the Red Banner of Labor, Institute of the Chemistry of Plant Substances of the Uzbek SSR Academy of Sciences, Andizhan State Medical Institute imeni M. I. Kalinin

"Study of Physochlaina Dubia Alkaloids"

Tashkent, Khimiya Prirodnikh Soyedineniy, No 4, 1972, pp 493-495

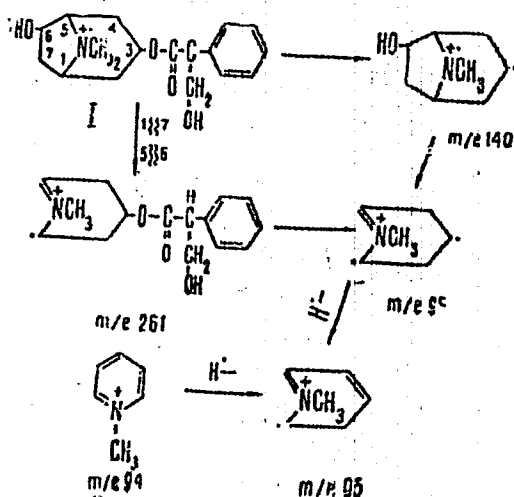
Abstract: Chloroform extraction was used to isolate 1.25% of the total alkaloids from the roots of Physochlaina dubia Pasch. (Ph. alatica E. Korot.) gathered in the flowering phase in the Fergan Oblast. By separating the mixture of bases by solubility in organic solvents, hyoscyamine and a new base I were obtained. The new base had a melting point of 61-62° (benzene),

$[\alpha]_D^{20} - 13.5^\circ$ (with 1.9 methanol), the bromohydrate with a melting point of 156-157° (acetone). The infrared, ultraviolet, nuclear magnetic resonance and mass spectral data and chemical properties of the base I indicate it has the structure of 6-oxyhyoscyamine

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MIRZAMATOV, R. T., et al., Khimiya Prirodnikh Soyedineniy, No 4, 1972, pp 493-495



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GOROKHOV, S. A. and LUTFULLAYEV, Kh. S.

"Automatic Construction of Alphabet-Frequency Dictionaries"

Nauch.-Tekhn. Inform. Sb. Vses. In-t Nauch. i Tekhn. Inform. [Scientific and Technical Information, Collection of the All-Union Institute for Scientific and Technical Information], 1973, Ser 2, No 2, pp 28-32 (Translated from Referativnyy Zhurnal Kibernetika, No 9, 1973, Abstract No 9V690).

Translation: An algorithm is suggested for automatic construction of an alphabet-frequency dictionary, based on the principle of successive division of an initial file of information into nonintersection subsets with subsequent formation of a dictionary within the limits of each subset individually.

The algorithm described in the article for construction of an alphabet frequency dictionary has been broadly used for the solution of problems related to the initial formation and further alteration of information retrieval languages in the process of functioning of the "Neft'" ["Petroleum"] automatic information retrieval system.

Authors' view

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UDC: 8.74

ADYLOVA, Z., LUTFULLAYEV, R. A.

"Some Properties of the Measures of Importance of Characteristics"

Vopr. Kibernetiki [Problems of Cybernetics--Collection of Works], No 49, Tashkent, 1972, pp 5-11 (Translated from Referativnyy Zhurnal Kibernetika, No 11, 1972, Abstract No 11V602)

Translation: The properties of the measure of importance of a characteristic I are studied, and its dependence on the characteristic itself and the properties of the table are estimated in order to support the selection of the parameters of a measure and interpret the results of experiments. Formulas are presented which consider the range of change of the measure. A simple formula is presented for calculation of the measure, allowing a significant reduction in machine time. Practical recommendations are presented.

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